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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,748	04/18/2005	Christian Schlummer	SCHLUMMER-2	6071
20151	7590	06/15/2006	EXAMINER	
HENRY M FEIEREISEN, LLC			LEYSON, JOSEPH S	
350 FIFTH AVENUE			ART UNIT	
SUITE 4714			PAPER NUMBER	
NEW YORK, NY 10118			1722	

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/531,748

Applicant(s)

SCHLUMMER, CHRISTIAN

Examiner

Joseph Leyson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-29 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/18/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed (i.e., a device). The title should be amended to delete "AND METHOD".
2. In the preliminary amendment filed on April 4, 2006, it appears that the heading before paragraph [0023] should be instead before paragraph [0021].
3. The list on p. 14 of the specification should be deleted
4. The disclosure (i.e., paragraph [0002]) should not refer to the claims because claim content can change during prosecution thereof.

Claim Objections

5. Claim 17 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 17 does not further structurally limit the apparatus of claim 15 and only further recites intended use of the claimed apparatus. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987); see MPEP 2114. "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in

determining patentability of the apparatus claim.” Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, “[i]nclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims.” In re Young, 75 F.2d 996, 25 USPQ 69 (CCPA 1935) (as restated in In re Otto, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). See MPEP 2115.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 15-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 is incorrect. In the second to the last line of claim 15, “cylinder” should be changed to --piston-- because, as understood from the disclosure (i.e., fig. 1), the blowing agent is supplied through the screw piston 1 (not the cylinder) to the mixing elements 9 by bores 11 and 12.

Claim 16 is incorrect. In line 2 of claim 16, “cylinder” should be changed to --piston-- because, as understood from the disclosure (i.e., fig. 1), the mixing elements 9 are connected to the screw piston 1.

Claim 25 is dependent upon claim 224 which is incorrect because there is no pending claim 224. Claim 25 should depend from claim 24 in view of the claim language of claims 24 and 25.

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8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 15-18, 20-23 and 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimura et al. (U.S. Patent 6,652,254) in view of Hendry (U.S. Patent 4,390,332).

Shimura et al. (U.S. Patent 6,652,254) disclose a device for an injection molding machine 1 in the production of foamed plastic molded parts by an injection method utilizing a blowing agent including a screw piston 3 supported in an injection cylinder 2 of an injection molding machine 1 defined by a draw-in zone L1, a compression zone L2 and a metering zone L3, wherein a diameter of the screw piston 3 downstream following the metering zone L3 is less than a diameter of the piston in the metering zone L3 (i.e. see smaller diameter zone L4), a permeable mixing element 10 (note that element 10 is permeable by having opening 5 and allowing blowing agent to flow therethrough and that element 10 is a rotation-symmetrical pin nozzle projecting from the shaft of the screw piston 3, i.e., fig. 2; col. 6, lines 56-64, which enables mixing) connected to the screw piston 3 for loading with blowing agent, an inlet unit 12 for supplying the blowing agent through the piston 3 to the mixing element 10 in a locally defined area, the mixing element 10 being connected to the piston 3 downstream following the metering zone L3, the blowing agent being introduced to a polymer melt through the mixing element 10 into a defined area, the blowing agent input unit 12 being provided with a bore 6, 11.

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Shimura et al. (U.S. Patent 6,652,254) do not teach a plurality of mixing elements, the screw piston including a threaded bore for connecting the mixing element, the mixing element having a stepped portion, the mixing element including cylinders of varying diameter, or the mixing element being configured as a cone, a truncated cone, a straight prism or an angular prism, or being configured with a rhomb-shaped or rectangular cross section.

Hendry (U.S. Patent 4,390,332) discloses a device for an injection molding machine in the production of foamed plastic molded parts by an injection method utilizing a blowing agent including a screw 266 supported in a cylinder 262 of an injection molding machine including permeable mixing elements 296 connected to the screw 266 for loading multiple areas or zones with blowing agent (i.e., col. 11, lines 11-30), the mixing elements 296 have stepped portions defining cylinders of varying diameter (i.e., figs. 4-6), the screw 266 including threaded bores 294 for connecting threaded portions 298 of the mixing elements 296 to the screw 266, the mixing elements 296 include check valves 302 for allowing passage of blowing agent while preventing passage of molten plastics.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the apparatus of Shimura et al. (U.S. Patent 6,652,254) to have a plurality of mixing elements because such a plurality would enable loading of blowing agent into multiple areas or zones as disclosed by Hendry (U.S. Patent 4,390,332), to modify the mixing element of Shimura et al. (U.S. Patent 6,652,254) to have stepped portions defining cylinders of varying diameter and the screw piston to

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have a threaded bore because such a modification would enable connection of the mixing element to the screw piston as disclosed by Hendry (U.S. Patent 4,390,332). As to the mixing elements having different shapes, such as being configured as a cone, a truncated cone, a straight prism or an angular prism, or being configured with a rhomb-shaped or rectangular cross section, it would have been obvious to an artisan of ordinary skill at the time of the invention that the mixing elements could have different shapes as long as the mixing elements function as before, see *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) .

10. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimura et al. (U.S. Patent 6,652,254) in view of Hendry (U.S. Patent 4,390,332) as applied to claims 15-18, 20-23 and 26-29 above, and further in view of Taylor (U.S. Patent 3,972,970).

Taylor (U.S. Patent 3,972,970) discloses loading blowing agent to molten plastics through sintered metal or ceramic (i.e., col. 6, lines 3-19) to allow the passage of blowing agent while preventing the passage of molten plastics.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to further modify the mixing elements to include sintered metal or ceramic because such a modification is well known and conventional in the foaming art for allowing the passage of blowing agent while preventing the passage of molten plastics as disclosed by Taylor (U.S. Patent 3,972,970) and because such a modification would be a functional alternative to the check valve of the mixing elements

of Hendry (U.S. Patent 4,390,332) for allowing the passage of blowing agent while preventing the passage of molten plastics.

11. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimura et al. (U.S. Patent 6,652,254) in view of Hendry (U.S. Patent 4,390,332) as applied to claims 15-18, 20-23 and 26-29 above, and further in view of Kudert et al. (U.S. Patent 5,975,871).

Kudert et al. (U.S. Patent 5,975,871) disclose seats 598 for copper o-rings 597 for preventing leaking of molten plastics between assembled parts.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to further modify the apparatus with seats and copper o-rings because such means are well known in the molten plastics processing arts for preventing leaks of molten plastics between assembled parts as disclosed by Kudert et al. (U.S. Patent 5,975,871).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Henning (U.S. Patent 2,848,739), Ishibashi et al. (U.S. Patent 3,902,704) and Kawauchi et al. (U.S. Patent 6,949,208) are cited as of interest to show the state of the art.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Leyson whose telephone number is (571) 272-5061. The examiner can normally be reached on M-F 9AM-5:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gupta Yogendra can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JL

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GROUP 130

5-12-06